

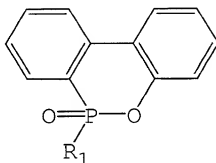
Claims:

1. A resin composition comprising:

an epoxy resin,

5 an amine-type curing agent,

an organophosphorus compound having a structure  
represented by formula 1:



Formula 1

10       Wherein R1 is an aryl radical with two hydroxyl  
groups, and the aryl radical can be substituted by  
one to three lower alkyls,

and

an organic solvent,

15       wherein the epoxy resin and the organophosphorus compound  
has been compounded at a temperature of 50°C or lower.

2. The resin composition according to claim 1, wherein the  
epoxy resin contains at least one epoxy resin selected from  
20 a phenol-novolak epoxy resin, a cresol-novolak epoxy resin  
and a dicyclopentadiene-modified novolak epoxy resin in an  
amount of 30 wt% or more versus the combined amount of the  
whole epoxy resin.

3. The resin composition according to claim 1 or 2,  
wherein the amount of the amine-type curing agent  
compounded is from 0.3 to 0.6 equivalent per epoxy group of  
5 the epoxy resin.

4. The resin composition according to any one of claims 1  
to 3, wherein the amine-type curing agent is dicyandiamide.

10 5. The resin composition according to any one of claims 1  
to 4, wherein the amount of the organophosphorus compound  
compounded is from 5 to 30 wt% versus the total amount of  
organic solids excluding the organic solvent.

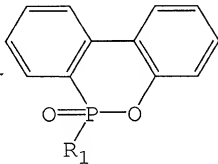
15 6. The resin composition according to any one of claims 1  
to 5, wherein the organophosphorus compound is 10-(2,5-  
dihydroxyphenyl)-9,10-dihydro- 9-oxa-10-  
phosphaphenanthrene-10-oxide.

20 7. The resin composition according to any one of claims 1  
to 5, further comprising at least one inorganic filler in  
an amount of from 10 to 50 wt% versus the total amount of  
the solid components excluding the organic solvent.

25 8. The resin composition according to 7, wherein the  
inorganic filler is aluminum hydroxide.

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9. The resin composition according to 7 or 8, wherein a part of the inorganic filler is treated with zinc molybdate.
- 5 10. A prepreg obtained by impregnating a substrate with the resin composition according to any one of claims 1 to 9 and then drying the substrate impregnated with the resin composition.
- 10 11. A laminate comprising the prepreg according to claim 10 and a metal foil.
12. A printed wiring plate wherein the resin composition according to any one of claims 1 to 9 is used as an
- 15 insulating substrate.
13. A method for producing a resin composition comprising:  
an epoxy resin,  
an amine-type curing agent,  
20 an organophosphorus compound having a structure represented by formula 1:



Formula 1

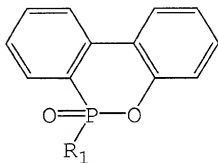
Wherein R<sub>1</sub> is an aryl radical with two hydroxyl groups, and the aryl radical can be substituted by one to three lower alkyls,

and

an organic solvent,

wherein the epoxy resin and the organophosphorus compound are compounded at a temperature of 50°C or lower.

14. A method for producing a resin composition comprising:
- an epoxy resin,
  - an amine-type curing agent,
  - an organophosphorus compound having a structure represented by formula 1:



Formula 1

Wherein R<sub>1</sub> is an aryl radical with two hydroxyl groups, and the aryl radical can be substituted by one to three lower alkyls,

and

an organic solvent,

the method comprising:

allowing the epoxy resin and the amine-type curing agent to react in the organic solvent at a temperature of

from 80 to 140°C,

bringing the two components into a state where the two components are mutually compatible in the absence of a solvent, and then

- 5       compounding the organophosphorus compound to the reaction product at a temperature of 50°C or lower.

- 15       The method for producing a resin composition according to claim 13 or 14, wherein the resin composition further  
10       comprises an inorganic filler.

16. A method for producing a prepreg, the method comprising:  
      using a resin composition prepared by the method  
15       according to any one of claims 13 to 15 as resin varnish, impregnating a substrate with this resin varnish, and then  
      drying the substrate impregnated with the resin varnish.

- 20       17. A method for producing a laminate, the method comprising arranging a metal foil on the prepreg prepared by the method according to claim 16, and heating and pressurizing them to laminate together.  
25       18. A method for producing a printed-wiring board, the method comprising removing, by etching, an unnecessary part

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of the laminate prepared by the method according to claim  
17.

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